

Apollo Solar Piston Pump™

MODEL 102

Flows to 2.7 gpm, to 175 ft.

TECHNICAL SPECS.

Linear-Rod Piston Pump

The Apollo Solar Model 102 is a positive-displacement, reciprocating-action piston pump powered by solar panels, with or without supplemental batteries, that pumps virtually any flowable material.

The simple, 3/8-hp linear-rod, non-polluting driver is mounted above the wellhead or sump for easier installation and safer servicing at surface grade.

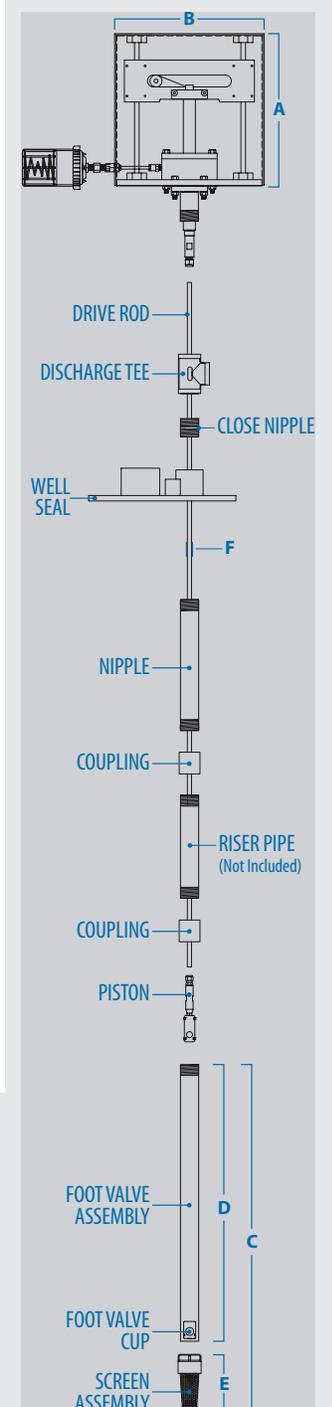
Model 102 maintains a steady flow to maximum

submergence depths of 175 feet (53 meters). Flows range to 2.7 gpm (10.2 lpm); 3,888 gpd (14,717 lpd), at temperatures to 200°F; higher with special components.

Apollo Solar pumps are designed for several applications, including landfill leachate, remediation and recovery, gas-well dewatering, biofuel and pipeline drip-leg sump. They can be built to site requirements.

Apollo is also available in an AC-grid model.

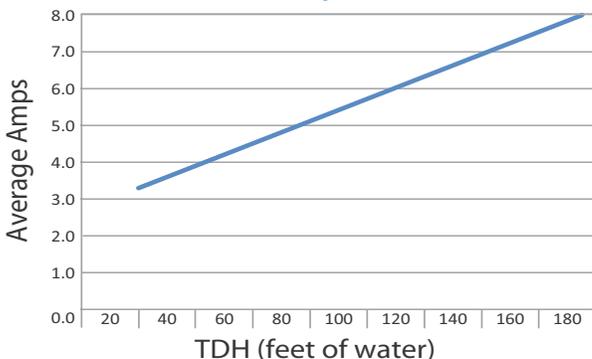
- Operational Depth: To 175 ft. / 53 m.
- Flow Range: To 2.7 gpm / 10.2 lpm
- Well-Casing Size: Min. 3 in. / 7.62 cm.
- Drive Motor: 3/8 hp



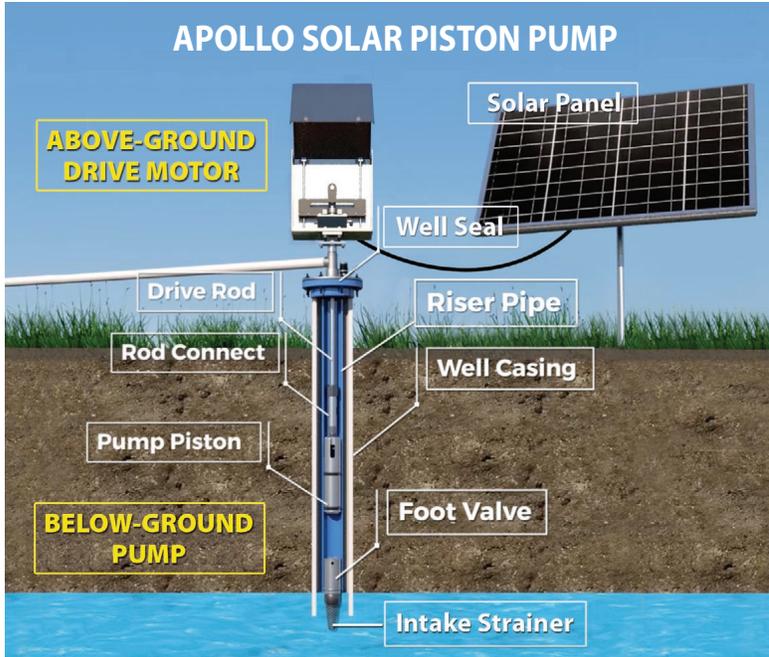
- DIMENSIONS (IN INCHES)**
- A. Above Well Height29.5
 - B. Driver Width12.0
 - C. Foot Valve Assembly44.0
 - D. Foot Valve Length38.0
 - E. Intake Screen Length 6.0
 - F. Downhole Diameter 2.9



Model 102 Amps vs. TDH



Apollo Solar Piston Pump™ Model 102



blackhawkco.com/how-blackhawk-solar-linear-rod-piston-pumps-work

How A Piston Pump Works

Above the sump/wellhead, the drive motor pushes and pulls a durable, flexible rod connected to a reciprocating piston near submergence depth.

As the motor draws the rod up, the piston creates suction at intake and liquid is pulled through a strainer and into a foot valve.

Stainless-steel balls open naturally to allow liquid into the piston and then close to prevent liquid from returning.

The pumping action pulls liquid up through a riser pipe, expelling the liquid through a discharge tee.

Performance Data

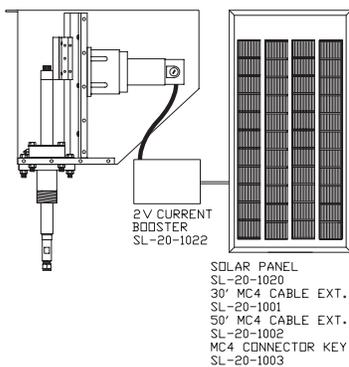
Operational Depth	175 feet / 53 meters
Flow Range	To 2.7 gpm / 10.2 lpm 3,888 gpd / 14,717 lpd
Motor	3/8 hp; 14 amps
Power Supply	24 volt DC; 385 watt panel; 9.6 amp output
Maximum Lift	175 feet (53.34 meters) of water at 76 psi
(Variable speed control adjusts to well conditions; liquid drawn down to top of screen)	
Discharge per Stroke	0.0625 US gal / 0.24 liter
Temperature Range	To 200°F / 93°C (higher with custom components)

Technical Data

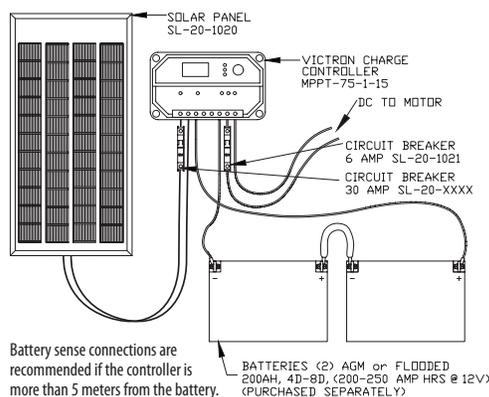
Maximum External Diameter	2.9" (7.37 cm)
Connection to Riser Pipe	1 1/4" (3.18 cm)
Connection Tubing	3/4" (1.9 cm) or greater
Recommended Internal Diameter of Bore Hole	3 - 4" (7.62 - 10.16 cm) or greater
Discharge Size	2" or 1 1/4" NPT
Installation	Unit can install vertically or horizontally
Driver Weight	50 lbs. (22.68 kg)
Driver Rod Weight	12 lbs./100' (3.7 kg per 100 m)
Foot Valve Assembly Weight	17 lbs. (7.71 kg)
Min. Well Casing Size	3" (7.62 cm)
Foot Valve Assembly Weight	20 lb. (9.1 kg)

Solar Set-Up Options

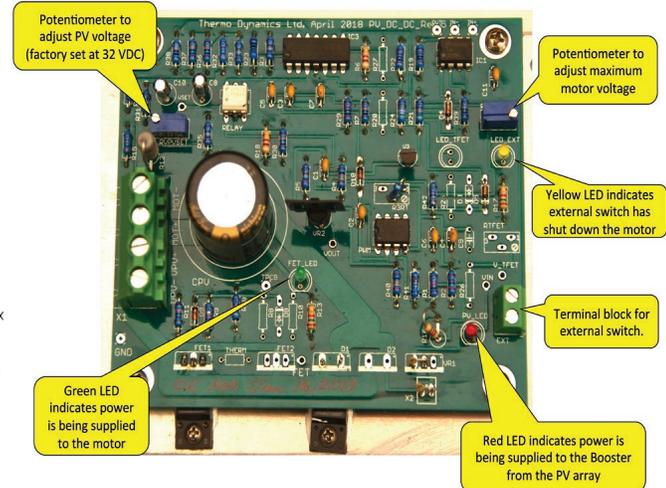
Driver with current booster only



DC package with battery control



Solar DC Controller



The best-performing environmental pump in the business

